

REMARKS/ARGUMENTS

Claims 26 and 34 have been amended.

Claims 26 - 44 are pending in the application.

Amendments have been made to claims 26 and 34 to address the Examiner's objection with respect to clarity. In addition, claim 26 has been amended to state that the bidirectional antenna is associated with the base station rather than Network Interface Units (NIUs).

The rejection of claims 26 - 28, 42 and 44 under 35 U.S.C. §103 as being unpatentable over Persinotti (US 4,578,815) in view of Krishnamurthi (US 6,198,929) and further in view of Frank (US 5,914,948) is respectfully traversed.

The present invention relates to a system and method for providing bi-directional communication between the base station and the Network Interface Units (NIUs) and between the base station and its neighboring base station using the same interface with first interface cards for providing wireless communication between the base station and the NIUs and having second interface cards for providing the point-to-point inter-cell radio link thereby making better use of the frequency licenses and facilitates that permits scaling of the system.

While the patent to Persinotti does show what could be considered an intercell link as indicated by the reference numeral 51 in Figure 1, it does not relate to improving bandwidth usage or scalability. The link between the various sites employs a

microwave transmitter and receivers at each site for providing a link between the various sites. This is described at column 3, beginning at line 60. It is also indicated that a land line could be provided for performing this function.

The Persinotti system is precisely the type of communication link that is described in the present application on page 2, beginning at line 10, reading:

Traditionally, the multipoint radio access system and radio intercell links (so called point-to-point radios) were essentially two separate systems. In a radio based intercell link implementation a service provider typically obtains a license for a fixed frequency or frequency spectrum and then uses transmission equipment tuned to a licensed frequency. Therefore, the point-to-point radios for intercell linking are fixed bandwidth units and do not significantly scale in their capacity.

Moreover, as amended to correct the error introduced in a previous amended, the base station has a highly directional antenna for providing point-to-point intercell radio link for communicating with the base station in the neighboring cell.

It is clear that Persinotti does not provide the first interface card for providing wireless communication between the base station and the NIUs and one or more second radio interface cards for providing point-to-point intercell radio link with a neighboring base station. There is no showing or suggestion in Persinotti of the highly directional antenna and one or more second radio interface cards to provide the point-to-point intercell radio link. There is no teaching or suggestion in Persinotti and the

secondary references of applicants' concept of scalability merely by adding interface cards.

With regard to claim 42, there is no teaching or suggestion in Persinotti of a method for providing a multiservice switch at each base station, each multi-service switch being equipped with radio interface for providing point-to-point bi-directional communication with other base stations in a network and providing a network manager in association with at least one of the base stations for configuring the radio interface cards and providing a directional antenna for each multi-service switch to support point-to-point bi-directional communication between base stations over the radio intercell link. In Persinotti, the Examiner characterizes element 52 of Persinotti as an equivalent of applicants' multi-services switch equipped with applicants' first and second radio interface cards. As described at column 4 of Persinotti:

Each of the sites includes a remote site central controller 50, 52, 42, and 56. Each remote site central controller controls the local operation of its respective site and provides for communication from its site back to a master control site, for example, site A in this embodiment. To that end, site A also includes a master site central controller 60. The master site central controller 60 serves as a control means for the entire system and supervises and controls the activities of all sites in the system.

Thus, element 52 is not equivalent to applicants' multi-services switch.

It is agreed that Krishnamurthi and Frank disclose directional antennas, but there is no teaching or suggestion in the art for combining these references or these teachings with Persinotti, and,

even if so combined, as shown above, would still not result in the architecture specified in applicants' claims.

Regarding claim 27, applicant agrees that Persinotti discloses a network having a plurality of cells, each cell having a base station for providing wireless communication to the network interface units within each cell. The reference fails to disclose the point-to-point intercell radio link with other base stations within the network via the highly directional antennas.

Claim 28 specifies that one of the base stations is controlled by a network manager "to provide configuration parameters for each of said one or more first and said one or more second interface cards in each of the multi-services switch in each base station." The Examiner contends that this is disclosed in Persinotti's network manager (60, Fig. 1). Element 60 is a master site controller which "...serves as a control means for the entire system and supervises and controls the activities of all sites in the system." Clearly, this is not the same as applicants' network manager.

The rejection of claims 29, 30, 32, 40 and 43 under 35 U.S.C. §103(a) as being unpatentable over Persinotti in view of Krishnamurthi and further in view of Frank and still further in view of Jaisingh (US 6,009,096) is respectfully traversed. Clearly, none of Persinotti, Krishnamurthi or Frank or discloses or suggests the combination subject matter and gist of these claims. Claim 29 depends from claim 28 and requires that the wireless

network be connected to an asynchronous transfer mode network. This chain of obviousness-built-on-obviousness-built-on-obviousness rejection is clearly a case of hindsight restructuring of the prior art based on applicants' claimed invention. This is erroneous. Claim 30 depends from claim 26 and specifies that each cell is subdivided into sectors and each base station has a sectored antenna for communication with the NIUs located in each sector within the cell. The Examiner contends that Jaisingh element 210 is a sectored antenna. However:

The base station 201 includes a microport transceiver 210 which communicates via a common air interface (CA) through omni antenna 361, and sector antennas 362, 363, 364 with a plurality of wireless subscriber units 224, 225, 226. (Jaisingh, column 3, lines 46 *et seq*).

Note that these are not characterized by Jaisingh as highly directional antennas.

Claims 32 and 40 depend from claims 27 and 39, respectively. Claim 32 specifies that the inter-cell radio link between the base stations in a ring, wherein one of the base stations is connected to a network and a network manager, and each of the other base stations is in a bidirectional communication with one base station over the inter-cell radio links. The Examiner contends that while Persinotti (and presumably the other secondary references) does not show an intercell radio link between base stations is in a ring configuration, this is shown in Jaisingh, the Examiner contending that Jaisingh discloses wherein the intercell radio link between the respective base station is a ring configuration citing Figure

2a. Figure 2a of Jaisingh discloses a SONET ring. The acronym SONET stands for Synchronous Optical Network which is a fiberoptic transmission system for high-speed digital traffic which is employed by telephone companies and common carriers. It is not a radio link.

The rejection of claim 31 under 35 U.S.C. §103(a) as being unpatentable over Persinotti in view of Krishnamurthi, and further in view of Frank, and further in view of Kawano (US 4,727,590) is respectfully traversed. Claim 31 depends from claim 30 which in turn depends from claim 26. Claim 31 requires that the first and second interface cards communicate with the sectorized antenna via one or more combiners. The Examiner's reference to Kawano is not understood clearly. The reference to one or more first interface cards (31a, Fig. 4) and each of said one or more second interface cards (37a, Fig. 4) communicates with said sectorized antenna (31a, 37a, Fig. 5) via one or more combiners (345, Fig. 5) is not clear. Elements 31a and 37a in Fig. 4 and 5 are antennas. Combiner 345 combines the channel units 348...344 which are connected between distributor 343 and combiner 345. Clearly, the Examiner is extracting the combiner from Kawano and taking it out of context and inserting it into applicants' context, and this is clearly erroneous hindsight reconstruction of the prior art.

Reconsideration is respectfully requested of the rejection of claims 33 and 41 as being unpatentable under 35 U.S.C. §103(a) over

Persinotti in view of Krishnamurthi, and further in view of Frank, and further in view of Acompora (US 6,049,593).

Claims 33 and 41 require that the intercell link between the respective base stations be in a mesh configuration. This is another example of hindsight restructuring of the art to satisfy the elements of applicants' claims without any basis in the art for making the multiple reference combination proposed by the Examiner. It only becomes obvious after applicants' disclosure, not before.

Reconsideration is respectfully requested of the rejection of claim 34 under 35 U.S.C. §103(a) as being unpatentable over Persinotti, Krishnamurthi, Frank and further in view of Schaeffer (US 5,455,821).

It will be noted that claim 34 has been amended to make it clear that the base station has a highly directional antenna for providing point-to-point intercell radio link with the base station in a neighboring cell. The multi-services switch is equipped with a first radio interface card and the second interface card for providing point-to-point radio inter-cell link, said interface card being selectively one of the following: frequency division multiple access (FDMA) or time divisional multiple access (TDMA). This combination of four references is yet another example of hindsight restructuring of the art without any foundation in the references for the combination proposed.

The rejection of claims 35-39 under 35 U.S.C. §103(a) as being unpatentable over Persinotti, Krishnamurthi, Frank, and further in view of Schaeffer and Jaisingh is respectfully traversed.

In regard to each of the reconstructions of the prior art given by the Examiner in connection with claims 36, 37, 38 and 39 it is manifestly clear that they are based on applicants' disclosure and not what flows naturally from the prior art.

In view of the above, further and favorable reconsideration is respectfully requested.

Respectfully submitted,



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In the event this paper is deemed not timely filed, the applicant hereby petitions for an appropriate extension of time. The fee for this extension may be charged to Deposit Account No. 26-0090 along with any other additional fees which may be required with respect to this paper.